

45. (new) A method of operating a set-top terminal for connecting a subscriber to a cable network, wherein said set-top terminal comprises a processor and a memory unit, said memory unit storing programming that is executed by said processor during operation of said set-top terminal, wherein said memory unit further comprises at least two versions of said programming, a newer version and an older version, said method comprising:

executing said newer version of said programming upon start-up of said set-top terminal;

receiving a command via said cable network to switch versions of said programming; and

terminating execution of said newer version of said programming and beginning execution of said older version of said programming in response to receipt of said command.

46. (new) The method of claim 45, further comprising erasing said newer version of programming from said memory and restarting said set-top terminal to begin execution of said older version of programming.

REMARKS

Reconsideration and allowance are respectfully requested. Claims 1-46 are currently pending and stand rejected by the Examiner. No new matter has been added.

§ 102 rejection

Claims 1-4, 6-19, 21-22, 24-27, 29-37, and 39-42 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,440,632 to Bacon et al. ("Bacon"). Applicants respectfully traverse this rejection.

Contrary to the Office Action's assertions, Bacon fails to disclose a processor that "monitors an out-of-band control channel" and that "only accepts said download on said specified in-band channel. . . when one or more predetermined criteria are

satisfied" (p. 3). Instead, Bacon simply states that control data can be downloaded from any transmission scheme (out-of-band, in-band audio or in-band video) and only generally states that bytes in a download parameters transaction can "indicate the frequency of the channel on which the downloadable program code transactions will be transmitted" (col. 8, lines 17-25; col. 9, lines 66-68). In other words, Bacon assumes that both out-of-band and in-band channels carry downloading parameters and the actual downloaded code without using different channel types for different functions (col. 2, lines 52-58; col. 6, lines 15-31).

Although Bacon does mention that a converter in the terminal may be tuned to receive in-band video and audio data when not in use, Bacon does not attribute any particular functions to the in-band channel as opposed to the out-of-band channel. More particularly, Bacon does not separate functions so that the out-of-band channel carries information indicating download availability while the in-band channel carries the downloaded information itself like the claimed invention. In fact, Bacon does not even mention monitoring any channel for information. Instead, Bacon simply describes the downloading transactions without mentioning when, where, or over which channels these the parameters and program code are downloaded (col. 9, lines 25-37). Bacon does not disclose that an out-of-band channel (or any channel, for that matter) is monitored for information about download availability, nor does Bacon disclose that the download is conducted via an in-band channel.

The claims, by contrast, specifically state that the processor monitors an out-of-band channel for information indicating that data or programming is available for download on a specified in-band channel. Rather than allowing all types of channels to do all types of functions like Bacon, the claimed invention separates the monitoring function and the downloading function to the out-of-band channel and the in-band channel, respectively. Because Bacon fails to disclose each element recited in the claims, Bacon fails to anticipate claims 1-4, 6-19, 21-22, 24-27, 29-37, and 39-42, and withdrawal of the rejection is respectfully requested.

Additionally, claim 7 recites that "said one or more criteria include a deadline by which acceptance of said download is required by an operator of said cable network, said deadline being a specific point in time subsequent to an initial offering of said download of data or programming." (emphasis added). In this regard, the

Examiner indicates the teachings of Bacon at Col. 15, lines 57-63. At this point, Bacon teaches that the system operator may include a flag with a download which forces immediate acceptance of the download.

Consequently, Bacon fails to teach or suggest the ability to set a deadline in the future by which a download will be accepted with maximum flexibility in the meantime to accommodate the needs of the subscriber. "A claim is anticipated [under 35 U.S.C. § 102] only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 2 U.S.P.Q.2d 1051, 1053 (Fed. Cir. 1987) (emphasis added). See M.P.E.P. § 2131. For at least this reason, the rejection of claims 7 and 8 should be reconsidered and withdrawn. These comments will also apply to newly-added claim 43.

Claim 18 recites:

A set-top terminal for connecting a subscriber to a cable network, said terminal comprising:

a processor; and

a memory unit,

wherein the processor monitors the cable network for information indicating that a download is available and indicating a specified channel for receiving the offered download, wherein said terminal occasionally receives said download over said cable network of new programming on said specified channel; and

wherein following said download of programming, said processor will only execute said new programming from said download when one or more predetermined criteria are satisfied that indicate executing said new programming will not inconvenience said subscriber.

The Examiner alleges that the invention of claim 18 is taught by Bacon at Col. 15, lines 21-26. However, Bacon, at the portion cited, merely teaches that as soon as the download is completed, the newly received programming is executed. Bacon does not teach or suggest that execution of the new programming may be delayed until one or more criteria are satisfied that indicate executing the new programming will not inconvenience the subscriber.

"A claim is anticipated [under 35 U.S.C. § 102] only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 2 U.S.P.Q.2d 1051, 1053 (Fed. Cir. 1987) (emphasis added). See M.P.E.P. § 2131. For at least this

reason, the rejection of claim 18, and claims that depend from claim 18, should be reconsidered and withdrawn.

§ 103 rejections

Claims 5 and 28 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Bacon in view of U.S. Patent No. 5,373,557 to Diehl et. al. ("Diehl"). Applicants respectfully traverse this rejection. Claims 5 and 28 depend on patentable claims and are therefore also patentable for the reasons explained above. Adding Diehl to Bacon still would not suggest the claimed invention because Diehl only teaches a system that activates decodes during a specified time of day and also does not suggest monitoring an out-of-band channel for information indicating the availability of data or programming on a specified in-band channel. The Office Action therefore fails to establish a prima facie case of obviousness with respect to claims 5 and 28, and withdrawal of the rejection is respectfully requested.

Claims 20 and 38 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Bacon in view of U.S. Patent No. 5,987,210 to Iggulden et al. ("Iggulden"). Applicants respectfully traverse this rejection. Adding Iggulden to Bacon still would not suggest the claimed invention because Iggulden only teaches a video system that can detect commercial messages and eliminated them from a video recording. Iggulden fails to suggest monitoring an out-of-band channel for information indicating the availability of data or programming on a specified in-band channel. The Office Action therefore fails to establish a prima facie case of obviousness with respect to claims 20 and 38, and withdrawal of the rejection is respectfully requested.

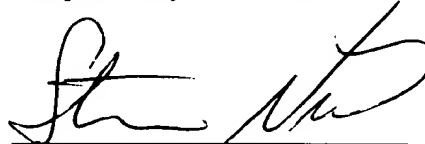
Claim 23 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Bacon in view of U.S. Patent No. 5,619,250 to Bacon in view of U.S. Patent No. 5,619,250 to McClellan et al. ("McClellan"). Applicants respectfully traverse this rejection. Adding McClellan to Bacon still would not suggest the claimed invention because McClellan only teaches an interactive television system that does not require restarting of a set-top box after receiving upgrades. McClellan fails to suggest monitoring an out-of-band channel for information indicating the availability of data

or programming on a specified in-band channel. The Office Action therefore fails to establish a prima facie case of obviousness with respect to claim 23, withdrawal of the rejection is respectfully requested.

All objections and rejections have been addressed. Additionally, the newly-added claims are thought to recite subject matter that is neither taught nor suggested by the prior art of record. Therefore, it is respectfully submitted that the present application is in condition for allowance, and a Notice to that effect is earnestly solicited.

Any fees associated with the filing of this paper should be identified in any accompanying transmittal. However, if any additional fees are required, they may be charged to Deposit Account 18-0013 in the name of Rader, Fishman & Grauer PLLC.

Respectfully submitted,



Steven L. Nichols
Registration No. 40,326

DATE: 26 July 2002

Steven L. Nichols, Esq.
Managing Partner, Utah Office
Rader Fishman & Grauer PLLC
River Park Corporate Center One
10653 S. River Front Parkway, Suite 150
South Jordan, Utah 84095

(801) 572-8066
(801) 572-7666 (fax)

Claims Appendix

For the convenience of the Examiner, and in accordance with 37 CFR 1.121(c)(1)(ii), all pending claims are presented below in their current form. Amendments made by the present paper are indicated with added material being underlined and deleted material being bracketed.

1. (Amended) A set-top terminal for connecting a subscriber to a cable network, said terminal comprising:

a processor; and

a memory unit,

wherein the processor monitors an out-of-band control channel of the cable network for information indicating that a download of data or programming is available and indicating a specified in-band channel for receiving the download of data or programming offered to said set-top terminal over said cable network, wherein said processor only accepts said download on said specified in-band channel and records said download in said memory unit when one or more predetermined criteria are satisfied, and wherein said criteria when satisfied indicates that acceptance of said download will cause a minimum of interference with said subscriber's use of said set-top terminal.

2. (Once Amended) The terminal of claim 1, wherein said one or more criteria are downloaded to said set-top terminal over said cable network.

3. (Unchanged) The terminal of claim 1, wherein said set-top terminal verifies that said data or programming offered as said download is not already resident in said memory.

4. (Unchanged) The terminal of claim 1, wherein said set-top terminal verifies that said data or programming offered as said download is specified as being intended for a class of terminals to which said set-top terminal belongs.

5. (once amended) The terminal of claim 1, wherein said one or more criteria include a time of day.
6. (Unchanged) The terminal of claim 1, wherein said one or more criteria include whether said set-top terminal is turned off.
7. (once amended) The terminal of claim 1, wherein said one or more criteria include a deadline by which acceptance of said download is required by an operator of said cable network, said deadline being a specific point in time subsequent to an initial offering of said download of data or programming.
8. (Unchanged) The terminal of claim 7, wherein said set-top terminal defers said deadline if said set-top terminal is being used to provide a dedicated service including recording programming in conjunction with a VCR or providing pay-per-view programming.
9. (Unchanged) The terminal of claim 1, wherein said set-top terminal signals said subscriber that said download is available and requests permission to accept said download, said one or more criteria including a positive response by said subscriber to said request for permission to accept said download.
10. (Once Amended) The terminal of claim 1, wherein said set-top terminal tunes to said specified in-band channel to receive said download if said one or more criteria are satisfied.
11. (Unchanged) The terminal of claim 1, wherein if said one or more criteria are satisfied, said processor erases information in said memory unit and replaces said erased information with data or programming from said download.
12. (Unchanged) The terminal of claim 1, wherein following said download of programming, said processor will only execute newly-received programming from said download when one or more predetermined criteria are satisfied.

13. (Unchanged) The terminal of claim 1, wherein, prior to accepting said download, said processor determines whether any programming is stored in said memory which is not being executed, but which is identified as being a later version than programming being executed by said processor at that time; if said processor locates any such later version of programming in memory, said processor will terminate execution of the programming being executed, erase said terminated programming from memory and reset so as to execute said later version of said programming.

14. (Unchanged) The terminal of claim 1, wherein, when said one or more criteria for accepting said download have been satisfied, said processor will erase from said memory any older, non-executing version of said programming already resident in memory and replace said erased programming with new programming from said download.

15. (Unchanged) The terminal of claim 1, wherein said memory unit is logically partitioned into two sections, a first section for containing programming being executed by said processor and a second section for receiving and storing programming from said download.

16. (Once Amended) The terminal of claim 1, wherein each download of programming contains two versions of a programming object, a first programming object for storage in and execution from a first memory section of said memory unit and a second programming object for storage in and execution from a second memory section, of said memory unit wherein said processor downloads one of said two versions of programming in accordance with whether said first or second memory sections is vacant.

17. (Unchanged) The terminal of claim 1, wherein said memory unit comprises two separate memory devices, a first memory device for containing programming being executed by said processor and a second memory device for receiving and storing programming from said download.

18. (Amended) A set-top terminal for connecting a subscriber to a cable network, said terminal comprising:

a processor; and

a memory unit,

wherein the processor monitors [an out-of-band control channel of] the cable network for information indicating that a download is available and indicating a specified [in-band] channel for receiving the offered download, wherein said terminal occasionally receives said download over said cable network of new programming on said specified [in-band] channel; and

wherein following said download of programming, said processor will only execute said new programming from said download when one or more predetermined criteria are satisfied that indicate executing said new programming will not inconvenience said subscriber.

19. (Unchanged) The terminal of claim 18, wherein said one or more criteria include whether said set-top terminal is turned off.

20. (Unchanged) The terminal of claim 18, wherein said one or more criteria include detection of a commercial break in television programming being received by said set-top terminal.

21. (Unchanged) The terminal of claim 18, wherein said one or more criteria include a deadline by which implementation of said new programming is required by an operator of said cable network.

22. (Unchanged) The terminal of claim 21, wherein said set-top terminal defers said deadline if said set-top terminal is being used to provide a dedicated service including recording programming in conjunction with a VCR or providing pay-per-view programming.

23. (Unchanged) The terminal of claim 18, wherein said set-top terminal signals said subscriber that new programming has been received and is ready for

execution and requests permission to execute said new programming, said one or more criteria including a positive response by said subscriber to said request for permission to execute said new programming.

24. A method for minimizing interruptions to use of a set-top terminal that connects a subscriber to a cable network where said interruptions result from downloading data or programming to said set-top terminal over said cable network, the method comprising the steps of:

receiving a signal from a headend identifying a specified in-band channel on which said download is available, wherein the received signal is obtained via an out-of-band control channel of the cable network; and

accepting said download on said specified in-band channel only when one or more predetermined criteria are satisfied, said criteria when satisfied indicating that acceptance of said download will not interfere with said subscriber's use of said set-top terminal.

25. (Once Amended) The method of claim 24, further comprising downloading said one or more criteria to said set-top terminal over said cable network.

26. (Unchanged) The method of claim 24, further comprising verifying that said data or programming offered as said download is not already resident in said set-top terminal.

27. (Unchanged) The method of claim 24, wherein said method further comprising verifying whether said one or more predetermined criteria are satisfied.

28. (Unchanged) The method of claim 27, wherein said verifying comprises comparing a time of day against a predetermined acceptable time of day for accepting a download.

29. (Unchanged) The method of claim 27, wherein said verifying comprises determining whether said set-top terminal is turned off.

30. (Unchanged) The method of claim 24, further comprising signaling said subscriber that said download is available and requesting permission to accept said download, wherein said one or more criteria include receiving a positive response by said subscriber to said request for permission to accept said download.

31. (Unchanged) The method of claim 24, further comprising, subsequent to said download of programming, executing newly-received programming from said download only when one or more predetermined criteria are satisfied.

32. (Unchanged) The method of claim 24, wherein, prior to accepting said download, said method comprises:

determining whether any programming is stored in said memory which is not being executed, but which is identified as being a later version than programming running on said set-top terminal at that time; and,

if any such later version of programming is located in memory, terminating execution of the programming being executed, erasing said terminated programming from memory and resetting said set-top terminal so as to execute said later version of said programming.

33. (Unchanged) The method of claim 24, wherein, when said one or more criteria for accepting said download have been satisfied, said method further comprises erasing from said memory any older, non-executing version of said programming already resident in memory and replace said erased programming with new programming from said download.

34. (Once Amended) The method of claim 24, further comprising partitioning said memory unit into two memory sections, a first memory section for containing programming being executed by said processor and a second memory section for receiving and storing programming from said download.

35. (Unchanged) The method of claim 34, wherein each download of programming contains two versions of a programming object, a first programming

object for storage in and execution from said first memory section and a second programming object for storage in and execution from said second memory section, wherein said method further comprises selectively downloading one of said two versions of programming in accordance with whether said first or second memory section is vacant.

36. A method for implementing upgraded programming received in a set-top terminal for connecting a subscriber to a cable network, said method comprising the steps of:

receiving a signal from a headend identifying a specified in-band channel on which a download of upgraded programming is offered, wherein the received signal is obtained via an out-of-band control channel of the cable network; and

terminating execution of existing programming and commencing execution of said upgraded programming only when one or more predetermined criteria are satisfied.

37. (Unchanged) The method of claim 36, wherein said one or more criteria include whether said set-top terminal is turned off.

38. (Unchanged) The method of claim 36, wherein said one or more criteria include detection of a commercial break in television programming being received by said set-top terminal.

39. (Unchanged) The method of claim 36, wherein said one or more criteria include a deadline by which implementation of said new programming is required by an operator of said cable network.

40. (Unchanged) The method of claim 39, further comprising deferring said deadline if said set-top terminal is being used to provide a dedicated service including recording programming in conjunction with a VCR or providing pay-per-view programming.

41. (Once amended) A set-top terminal for connecting a subscriber to a cable network, said terminal comprising:

- a processor unit comprising a first processor and a second processor; and
- a memory unit;

wherein said first processor is dedicated to providing a user interface and said second processor is dedicated to monitoring an out-of-band channel for information indicating that a download of data or programming is available, indicating a specified in-band channel for receiving the download, and managing a download of data or programming offered to said set-top terminal over said cable network through the specified in-band channel such that said first processor can maintain said user interface including user services while said second processor manages the download.

42. (New) The terminal of claim 1, wherein said programming is received in packets, said terminal being configured to reassemble said packets into an executable object and stored into non-volatile memory.

43. (new) A set-top terminal for connecting a subscriber to a cable network, said terminal comprising:

- a processor; and
- a memory unit,

wherein the processor monitors transmissions over said cable network for information indicating that a download of data or programming is available and indicating a specified channel for receiving the download of data or programming offered to said set-top terminal over said cable network, wherein said processor only accepts a download and records said download in said memory unit when one or more predetermined criteria are satisfied that indicate that acceptance of said download will cause a minimum of interference with said subscriber's use of said set-top terminal; and

wherein said one or more criteria include a deadline by which acceptance of said download is required by an operator of said cable network, said deadline being a specific point in time subsequent to an initial offering of said download of data or programming.

44. (new) The terminal of claim 43, wherein said set-top terminal defers said deadline if said set-top terminal is being used to provide a dedicated service including recording programming in conjunction with a video cassette recorder or providing pay-per-view programming.

45. (new) A method of operating a set-top terminal for connecting a subscriber to a cable network, wherein said set-top terminal comprises a processor and a memory unit, said memory unit storing programming that is executed by said processor during operation of said set-top terminal, wherein said memory unit further comprises at least two versions of said programming, a newer version and an older version, said method comprising:

executing said newer version of said programming upon start-up of said set-top terminal;

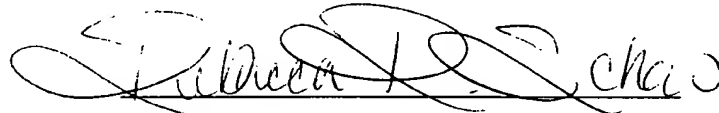
receiving a command via said cable network to switch versions of said programming; and

terminating execution of said newer version of said programming and beginning execution of said older version of said programming in response to receipt of said command.

46. (new) The method of claim 45, further comprising erasing said newer version of programming from said memory and restarting said set-top terminal to begin execution of said older version of programming.

CERTIFICATE OF MAILING

I hereby certify that the enclosed Amendment is being deposited with the United States Postal Service as first class mail, postage prepaid, in an envelope addressed to the Assistant Commissioner for Patents, Washington, D.C. 20231 on this 26th day of July, 2002.

A handwritten signature in cursive script, appearing to read "Rebecca R. Schow", written over a horizontal line.

Rebecca R. Schow